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| *The Life of a Plastic Bag* |
| *ELA/Science Grade 2 The lesson is designed as part of a unit on plastic* ***Approximately 4 weeks in duration*** |
| Standard(s) addressed: |
| [CCSS.ELA-LITERACY.W.2.1](http://www.corestandards.org/ELA-Literacy/W/2/1/)  Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section.  [CCSS.ELA-LITERACY.W.2.2](http://www.corestandards.org/ELA-Literacy/W/2/2/)  Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.  [CCSS.ELA-LITERACY.W.2.3](http://www.corestandards.org/ELA-Literacy/W/2/3/)  Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts, and feelings, use temporal words to signal event order, and provide a sense of closure. |
| Student learning objective: |
| ***Students will be able to:***   * Define energy and an energy chain * List the sources of energy that goes into a tin of tomatoes * Students will use facts to develop a main idea. * Connect their home life to their school life. |
| measurable achievement goal: |
| Given the experience of creating an energy chain, students will be able to demonstrate the energy flow between each stages of the chain. |
| Materials required: |
| * *Giant cardboard sun, trucker hats, farmer hats, can of tomato sauce* * *Prepared worksheets of differentiated independent work* * *pencils and paper* |
| Procedure: |
| 1. *Lesson Introduction (5 minutes):*   ***Students will be shown a can of tomato sauce.***  ***Teacher will ask students where did this can come from?***  ***Teacher will ask how did this can get here?***  ***Teacher will ask the students about the tomatoes and how they are grown.***   1. ***Guided Lesson (20 minutes):*** 2. ***Teacher will then ask students what energy is.*** 3. ***Teacher will explain how people get energy from food and in order to grow food we need the sun.*** 4. ***Teacher will then explain how we are now going to recreate the life of the tomato sauce from plant to plate.*** 5. ***Teacher will then ask where do we start, what do plants need to grow?*** 6. ***Teacher will ask a student to be the sun by holding large cardboard sun*** 7. ***Teacher will then narrate the “The sun is shining”*** 8. ***Teacher will then ask students what happens next?*** 9. ***Students will then suggest plants grow, a student will become the growing plant.*** 10. ***Teacher will then dictate: “The sun is shining, the plants are growing”*** 11. ***Teacher will ask what happens next? A student will become the farmer to water and pick the fruit from the plant*** 12. ***Teacher will ask a student to dictate: “The sun is shining, the plants are growing, the farmer is watering and harvesting.”*** 13. ***At this point, the teacher will explain the energy from the sun is making the plants grow, the farmer is using his energy to tend to the crops.*** 14. ***Teacher will then allow students to think about what happens next?*** 15. ***Teacher will ask how do the tomatoes get to a factory?*** 16. ***Student will become a truck driver who picks up the tomatoes, not before filling the truck up with gas.*** 17. ***Teacher asks where does the truck driver bring the tomatoes?*** 18. ***Student becomes a factory worker who processes the tomatoes.*** 19. ***Teacher asks student to dictate stages of the energy chain so far: “The sun is shining, the plants are growing, the farmer is working, the truck is filling up with gas to collect the tomatoes, the factory worker is working on processing the tomatoes.”*** 20. ***Teacher asks, what is next? Teacher reminds students of the can, and asks is the can is yet to your plate?*** 21. ***Teacher explains we need another truck driver, fill up with gas first, to bring the cans to the store.*** 22. ***Student dictates: “The sun is shining, the plants are growing, the farmer is working, the truck driver is driving, the factory worker is working, another truck driver is driving, not before filling up with gas.”*** 23. ***Teacher asks what is next? Student becomes a shop keeper who sets the tomatoes on the shelf.*** 24. ***Student becomes a dad who buys the tomato sauce to bring it home to prepare the meal.*** 25. ***Student is a student who actually eats the tomato sauce.*** 26. ***Student dictates the whole chain: “The sun is shining, the plants are growing, the farmer is working, the truck driver is driving, not before filling up with gas, the factory worker is working, the truck driver is driving the cans to the store, not before filling up with gas, the shop keeper is stocking the shelves, the dad is walking to the store to collect the cans and bring them home to prepare the meal, the child finally eats.”*** 27. ***Teacher asks the students to explain each use of energy along the way and how many different steps it takes to get tomatoes from the plant to plate.***      1. ***Independent Practice (10):*** 2. ***Students will then be given a worksheet with each stage of the energy chain scrambled up. Students will then be asked to arrange and glue the steps into the correct order and list three ways energy is used to get the tomatoes from plant to plate.*** 3. ***Differentiation:***   ***group a: Worksheets will consist of pictures of each step.***  ***group b: Worksheets will include pictures and words of each step.***  ***Group c: Students will be given the words to each step.***   1. ***Partnered Practice (time allotment):***   *Students will then be paired and asked to share their order of the steps. Students will be asked to think of another item you find in the store and think of how it got to the store.*   1. ***Closing the Lesson (5 min):***   *Teacher will explain how lots of energy goes into our food, students will be asked to remember the chain and list the steps.*  *At the end of the lesson, teacher will ask a depth of knowledge question: Is this important and why do you think so? How much energy are we wasting when we throw away our food?* |
| Assessment: |
| *Formative assessment: Discussion on what plants need to survive, what do we need to survive and how do those things happen?*  *Student independent work, the order of the chain and what are the energy sources being used to complete the chain.* |
| additional supports for learning: |
| *Differentiation is mentioned above. The following lesson will use their prior knowledge of living or non-living things and what they need to survive.*  *Homework: Students will choose one item from their homes to develop an energy chain from plant to plate. Students will write each step or draw a picture of each step of the chain.* |

Scoring Rubric

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| Student Self Evaluation | | |
| I got all of my answers correct. | I did not need any help. | I thought the work was easy! |
| I got some of the answers correct. | I needed some help. | I thought the work was a little bit easy and a little bit hard. |
| I did not get the answers correct. | I needed a lot of help. | I thought the work was too hard! |

After the period ends, each student self-evaluates, by thinking about the answers they got correct, the amount of help they needed and the level of difficulty. These are laminated and kept in their pencil boxes, they circle their opinions in each column.

Teacher scoring Rubric:

All assignments are graded using the rate of accuracy: total number correct over the total number possible. Assignments are also graded using the level of independence demonstrated by the student. Every time a student is prompted including verbally, visually or physically; this is recorded on the work. The level of independence is calculated by the number of questions or problems answered without prompting over the total number of problems.

My students are not typically graded using standard rubrics, however, I have created one for this assignment:

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|  | 1=0-50% | 2=51-79% | 3=80-100% |
| Accuracy | Student did not put the steps in the correct order | Student put some of the steps in the correct order | Student put 80-100% of the steps in the correct order |
| Independence | The student was able to complete less than 50% of the task independently | The student was able to place 51-79% of the steps in the correct order | The student was able to place 80-100% of the steps in the correct order |
| Writing | Correct letter formation | Sentences had correct capitalization | Sentences were complete and accurate using commas |